

# An Anatomical Exploration of “Garudasana”

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## ABSTRACT

The term *Yoga* is derived from the Sanskrit root *yuj* meaning to bind, join, attach and yoke, to direct and concentrate one's attention on, to use and apply. It also means union or communion. It is the true union of our will with the will of God. *Yoga* is performed through some specific postures called *Asana*. Among the eight limbs of *Yoga*, the *Yogic* technique properly begins at the third limb that is the *Asana*. *Asana* means a state in which one can remain physically and mentally steady, calm, quiet and comfortable. Patanjali defines *Asana* as “*Sthirasukhatvam*” in *Yogasutra* which can be translated as Stable and pleasurable state of body is called *Asana*. “*Garudasana*” was described as one of the 32 most important *Asana* in *GherandaSamhita*. The word *Garuda* means an eagle. It is also name of the king of birds. *Garuda* portrayed as the vehicle of Vishnu and as having a white face, an aquiline beak, red wings and a golden body. *Garuda* was considered to help humans fight against demons.

**KEYWORDS:** *Yoga, Asana, Anatomy, Joint, Muscle, Garudasana*

## INTRODUCTION

“*Garudasana*” was described as one of the 32 important *Asana* in *GherandaSamhita* (dated 1650 CE). The *GherandaSamhita* is the most encyclopaedic of the three-classic text about *Asana*. It says that there are 8,400,000 of *Asana* described by *Shiva*. The postures are many in number as there are number of species of living creatures in this universe, among them 84 are the best and among these 84, 32 have been found useful for mankind in this world these 32 *Asana* are mentioned in *GherandaSamhita*.<sup>1</sup>

The word *Garuda* means an eagle. It is also name of the king of birds. *Garuda* portrayed as the vehicle of Vishnu and as having a white face, an aquiline beak, red wings and a golden body. *Garuda* was considered to help humans fight against demons.<sup>2</sup>

## Aim of this study

In this article the important expedition of *Asana* practitioner about the anatomical structures involved in the *Asana* and how this involvement is beneficial in maintaining health or in management of any disease and the knowledge of anatomy will also help the *Asana* practitioners, to avoid injuries.

## Aim and Objectives -

- To explore the anatomical structures involved in “*Garudasana*”.
- To avoid possibilities of injuries while performing *Garudasana* by understanding the anatomical structures involved in “*Garudasana*”.

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## Material and Methods -

1. Texts related to *Yoga-Asana* and their commentaries.
2. Other print media, online information, journals, magazines etc.

## Review-

Place the legs and the thighs on the ground pressing it, steady the body with the two knees, place the two hands on the knees, this is called the *Garuda* posture.<sup>3</sup>

In *Garudasana*, one has to stand erect, raise the right leg and wind it fully around the left leg. Similarly wind the arms around each other and join the palms or make a finger lock. Standing thus on one leg, place the wrists on the tip of the nose in such a way that the formation looks like the beak of a bird. Posture to be repeated on the other leg also.<sup>4</sup>

Attain the standing position and focus the gaze on a fixed spot. Bend the right leg and twist it around the left leg. The right thigh should be in front of the left thigh and the top of the right foot should rest on the calf of the left leg. fold the elbows and bring them in front of the chest. Twist the forearms around each other with the left elbow remaining below. Bring the palms together to resemble an eagle's beak. Balance in this position for some time, then slowly bend the left knee and lower the body, keeping the back straight, until the elbows come down to the knees and the tip of the right big toe touches the floor. Eyes to be focused on the fixed point. Keep the final position for as long as is comfortable, then raise the body, and release the legs and arms. Relax with the eyes closed. Repeat with the legs and arms the

opposite way around. Practice up to 3 rounds on each side. Breathe normally throughout the practice.<sup>5</sup>

Stand in *Tadasana*, bend the right knee. Place the left leg over the right thigh above the right knee and rest the back of the left thigh on the front of the right thigh. Then bring the left foot behind the right calf so that the left shin touches the right calf and the left big toe hooks just above the inner side of the right ankle. The left leg is now entwined around the right leg. Bend the elbow and raise the arms to the level of the chest, rest the right elbow on the front of the left upper arm near the elbow joint. Then move the right hand back to the right and the left hand back to the left and join palms. The left arm will now be entwined around the right arm. Retain this position for a few seconds then release the arms and legs and come back to *Tadasana*.<sup>6</sup>

In *Garudasana*, student stand on the ground in such a way that the right legs intertwined with the left, and the arms are also intertwined with each other like the stands in a rope. The intertwined hands should be placed in front of the chest like the beak of the eagle. The resulting *Asana* is called *Garudasana*.<sup>7</sup>

#### Steps for per for min g *Garudasana*-

- Stand erect slightly bend your knees lift your left leg balancing the body on the right leg. Place the left thigh over the right thigh.
- Wrap the shin of your left leg around the calf of the right leg. Hook the top of the left foot in the lower right calf. Balance the body on right leg.
- Raise the arms in front and parallel to the floor, palms facing upward direction. Next cross your arms placing the right arm above the left arm.
- Bend the elbows making the forearms perpendicular to the floor. Wrap the left forearm around and under the right forearm. Rest your left hands fingers firmly on your right palm. Keep the spine erect.
- Focus your gaze at a fixed point at a distance of 4-5 feet away. This is the final position.
- To return, gently release the arms first and then the legs to come back in starting position.

#### Contraindications-

Those who suffers from-

- Elbow, knee, ankle joints injuries
- Varicose vein
- Arthritis patients

Image-



## **Anatomical exploration of "Garudasana"-**

### **Joint actions-**

- Spine is extended.
- Shoulder joint is adducted.
- Scapula is elevated, upward and laterally rotated.
- Elbow is flexed.
- Forearm is supinated.
- Wrist joint is extended.
- Hips are flexed, adducted and internally rotated.
- Knee are flexed.
- Ankles are dorsiflexed.

### **Muscles and ligaments involved in "Garudasana"-**

#### **The spine**

Spine is in extended in this Asana. Extension of spine is done by the erector spinae muscles, transvers spinalis muscles, quadratus lumborum and Levator costarum.

The thoracic and lumbar spines are in extension. The muscles of anterior abdominal wall help in the Extension of trunk. These includes rectus abdominus, external oblique abdominus and internal oblique abdominus.

#### **Cervical region**

Cervical spine is extended. In this position the extensors of cervical region are contracted. Trapezius, splenius capitis, splenius cervicis, semispinalis capitis and longissimus Capitis helps to extend the head and are contracted in this case. The suboccipital muscles are Rectus capitis posterior major, Rectus capitis posterior minor, Obliquus capitis inferior and Obliquus capitis superior are involved in extension of the head at the Atlanto-occipital joints and rotation of the head and atlas on the axis. These are also stretched in this *Asana*.

#### **Thoracic spine**

It is extended. The superior thoracic vertebrae glide inferior and posterior. Iliocostalis thoracis, Longissimus thoracis, Spinalis thoracis, Multifidus, Semispinalis thoracis are active contracted in *Garudasana*.

#### **Lumbar spine**

It is extended. Extrinsic back muscles, in the superficial layers Latissimus Dorsi, Levator Scapulae, Rhomboids, trapezius contracts while extension of the lumbar region. Intrinsic muscles help in extension of lumbar spine, Iliocostalis, Longissimus, Spinalis, Semispinalis contracts while performing the *Garudasana*. Anterior abdominal wall muscles stretched in *Garudasana*.

#### **Shoulder region**

Shoulder joint is adducted in *Garudasana*. Adduction of shoulder joint is mainly done by the Pectoralis major, Latissimus dorsi, Short head of biceps, Long head of triceps, and it is assisted by coracobrachialis and teres major which is antagonised by deltoid and supraspinatus.

#### **Scapula**

Scapula is elevated, upward and laterally rotated in *Garudasana*. Elevation of scapula is done by the upper fibres of trapezius and Levator scapulae. Lateral or forward

rotation of scapula is done by the trapezius and serratus anterior.

#### **Elbow region**

Elbow is flexed in this pose. Flexion of the elbow joint is done by the brachialis, biceps brachii, and brachioradialis.

#### **Forearm**

Forearm is supinated in *Garudasana*. Supination is brought about by the supinator and biceps brachii. Slow supination with elbow extended is done by the supinator muscle. Rapid supination with the elbow flexed and when performed against resistance is done mainly by the biceps brachii.

#### **Wrist joint**

Wrist joint is extended. Extension of the wrist mainly done by the extensor carpi radialis longus, extensor carpi radialis brevis, extensor carpi ulnaris. It is assisted by the extensors of fingers and thumb- extensor digitorum, extensor digiti minimi and extensor pollicis longus, extensor pollicis brevis.

#### **Hip region**

The hip is flexed, adducted and internally rotated. Flexion of the hip joint done by psoas major, iliacus, pectineus, rectus femoris, sartorius. Adduction is performed by the adductors of the hip joint which are three groups of adductors, pectineus and gracilis. The adductors also internally rotate the hip joint along with tensor fasciae latae, gluteus Medius (anterior fibres) and some anterior fibres of gluteus minimus.

#### **Knee region**

Knee joint is flexed. The flexion of the knee joint is mainly done by semimembranosus, semitendinosus and biceps femoris and it is assisted by the gracilis, popliteus and sartorius. The extensor compartment or anterior compartment of the thigh will get stretched in *Garudasana*. This compartment consists of quadriceps femoris which includes rectus femoris, vastus lateralis, medialis and intermedius.

#### **Ligaments of knee joint**

Knee joint is flexed. In this position the maximum pressure is on the following ligaments.

- Medial and lateral meniscus.
- Posterior cruciate ligament.

#### **Ankle region**

Ankle joint is dorsiflexed. Dorsiflexion of the ankle is done principally by the tibialis anterior. It is assisted by the extensor digitorum longus, extensor hallucis longus and peroneus tertius.

#### **Benefits of "Garudasana"-**

It gives strength to nerves, tissues, muscles and bones of the arms legs and hands.<sup>8</sup>

*Garudasana* enhances concentration, strengthens the muscles and loosens the joints of the shoulders, arms and legs, and is good for the upper back.<sup>9</sup>

This *Asana* develops the ankles and removes stiffness in the shoulder. It is advised for preventing cramps in the calf muscles.<sup>10</sup>



The *Asana* is highly helpful in the cases of enlargement of the testicles. It provides great strength to the feet and the thighs. Any ache or arthritic disorder of the knees, the feet and other joints as well as pain of the shoulders, the elbows, the arms and the forearms, is cured by the practice of this *Asana*.<sup>11</sup>

### Discussion

In *Garudasana* the basic joint positions are spine is extended, shoulder joint is adducted, scapula is elevated, upward and laterally rotated, elbow is flexed, forearm is supinated, wrist joint is extended, hips are flexed, adducted and internally rotated, knee are flexed and ankles are dorsiflexed. In this pose anterior compartment of thigh muscles are stretched so it strengthens the thighs. This *Yoga* pose produces elegance, self-control and strength when its practiced with correct orientation. In this pose elbows and hips both are in flexion and muscles of these area are contracted so it gives more balance, coordination and flexibility to the body. Body is twisted in this *Asana* so it helps to squeeze the internal organs and detoxifies our body. It flushes out the kidneys, circulates blood to the reproductive system and keeps them healthy.

### Conclusion

In *Garudasana* muscles of the anterior compartment of thigh are more stretched so it gives strength to the thighs. This *Yoga* pose provides grace, self-control and strength when its practiced with correct alignment. In this pose muscles of the elbows and hips both are flexed and contracted so it gives additional stability, coordination and suppleness to the body.

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